DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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RAYNOLDS & NOURSE, *Proprietors.* OFFICE, QUINCY HALL, BOSTON. S. W. COLE, *Editor.*

WORK FOR THE SEASON.

AUGUST.—Before the close of this month, the scythe, the sickle and the cradle will have passed over many fields and shorn them of their crops. Much of the grandeur and beauty that have adorned nature the previous months will be gone. During a part of August, the farmer has some little respite from his hard labor, yet there is much to do in securing the matured crops, taking care of those that are growing, and doing many things in preparation for the future which cannot generally be so well done in any other season.

Haying is not yet completed in many parts of New England, and the sooner it is done the better, as grass dries up very fast, after it is fit for the scythe, and it soon loses much of its good qualities. When hay has many bushes, brakes and other weeds among it, put about half a peck of salt to each ton, and the cattle will eat up the coarse part much better.

Cutting Grain.—The greater part of the wheat harvest comes off in New England during this month. It should be cut soon after the berry begins to harden, as the straw is then drying up, and can afford no more nutriment to the grain. By cutting rather early, there is often a chance to save it from a long storm, or a long time of dull weather, which is often very destructive.

Weeds.—These require considerable attention, and yet they have generally been neglected during the haying season, and if not destroyed immediately, they will seed the ground plentifully. Those that are maturing their seed should be burned, or put into compost and the seed allowed to vegetate before the manure is applied to the land.

Bushes.—Cut bushes about the middle of this month, and they will sprout but little—less than if cut at any other season. On many farms in New England bushes are numerous, and occupy no small part of field and pasture. Their extermination would render the farm more beautiful, more pleasant to work, and greatly increase its profits.

Pruning Trees.—August is one of the best, if not the best month for this operation. The bark does not readily start from the wood; and as the tree is in foliage, the operator can see to thin the limbs judiciously. But the great advantage in pruning at this time, is that where the limb is cut off, the trunk remains sound whether it heals over soon or not.

Digging Wells.—In August or early in September, when there is a severe drought, is a good time for digging wells, as it generally will be done thoroughly. Frequently there is great loss in attending to this business when water is plenty, and the well is not sunk deep enough, and must be made deeper in a dry time at great expense.

Wet Lands, properly improved, are our most profitable grass lands, and though much has been done in some sections to reclaim these valuable lands, in other parts they are almost wholly neglected, while the grass crops are failing on high lands. This is a good season for clearing up, ditching, ploughing, hauling on sand or gravel, manuring and sowing wet land to grass; and if well done, a good crop of grass will pay no small share of the expense another year.

Weaning Lambs.—In this month, or early in September, according to their age, lambs should be weaned, while the feed is sweet and succulent. They bear weaning better at this season than late in the fall when the feed is dry, hard and innutricious; and the sheep are far better for early weaning, as they have a chance to get in good condition before winter. See that the lambs have a plenty of good sweet feed on being separated from their mothers.

Winter Wheat.—Prepare for sowing winter wheat, which should be sowed in this month, or early in next. Large quantities of this grain are now raised in Maine, and generally with profit. The Blue Stem is a variety that succeeds well there.

Manure.—Mud, muck and peat must be carted

from the low lands, and put in the barn yard, and also laid in a proper place for making compost, and a supply must be provided for the barn cellar in winter, and for bedding for cattle where there is no cellar, that the liquid manure may be saved.

Stone Wall, when the material is convenient, is the best and cheapest fence the farmer can make. Animals seldom attempt to go over it, or throw it down; and if it falls down a little in the course of the year, the materials are always at hand for repairing it. But do not cut the farm up into too small lots, as they are more difficult to till and to mow than open fields; besides the great waste of land for many interior fences. We have known farms of moderate size on which the waste of land for unnecessary fences, and the strips on each side not convenient to till, was sufficient to produce $100 worth of fruit annually, if set in trees.

THE PEACH BLOW POTATO.

The experience of our correspondent, Mr. Lee, as given in our last number in relation to this potato, corresponds with our own, and that of many others. The first year we cultivated this variety, it was on green sward, and among many varieties, it was noted for its great luxuriance and superior height of its top. There was no sign of disease. Afterwards we cultivated it on old land, and among forty or fifty kinds, all flourishing and healthy in their tops; the Peach Blow was affected with the curl. We planted it several years with the same effect. The curl would stop the growth of the tops so that the tubers would not be bigger than potato balls. We lost from one-tenth to one-half of our crop from this disease, and then gave up its culture.

In some locations this variety is not diseased, and as it yields well, is of good quality, rots but little, and bears a high price in market in spring and summer—frequently higher than any other variety—it is a profitable kind in soils adapted to its culture.

NOTICES OF PUBLICATIONS.

The Journal of Agriculture is the name of a new paper just started in this city, published in book form at Horticultural Hall, School Street, semi-monthly, at $2,00 a year. William S. King, Editor; Prof. J. J. Mapes, Assistant Editor. The first number contains a variety of interesting and useful matter, and favorably commends itself to the liberal patronage of the agricultural community. Success to the new enterprise.

The Cottage and Farm Bee-Keeper.—A very neat little work, published by C. M. Saxton, Agricultural Book Publisher, New York, containing in a small space much valuable matter, on the management of this industrious and useful insect.

Elements of Agriculture, for the use of primary and secondary schools. This appears to be a book of the first authority in France, and it is adapted to the use of schools in the United States by F. G. Skinner. Neat pamphlet form, 92 pages, price 25 cents. Published by C. M. Saxton.

ACKNOWLEDGMENTS.

Of John Fatler, gardener to Jacob Hittinger, Esq., Watertown, a box of very fine, well-ripened tomatoes, which he raised in the open air. These are very early, as they were received a week ago.

Of Solon Dike, Stoneham, a box and a twig of cherries, a seedling of his raising. The fruit is rather small, but the quality is sweet and good, and the tree is a great bearer.

From Hon. Samuel A. Elliot, Agricultural Department of the Patent Office Report.

J. C. Stone, Shrewsbury, has sent to us as a curiosity, a rose that grew on a bush that belonged to his great-grandmother, which bush is probably 125 years old.

We received, late last week, of John Fatler, gardener to Jacob Hittinger, Esq., Watertown, some very fine chenango potatoes of a large size and excellent quality, being very good and mealy. We are much obliged to Mr. F. for his acceptable and seasonable favors.

For the New England Farmer.

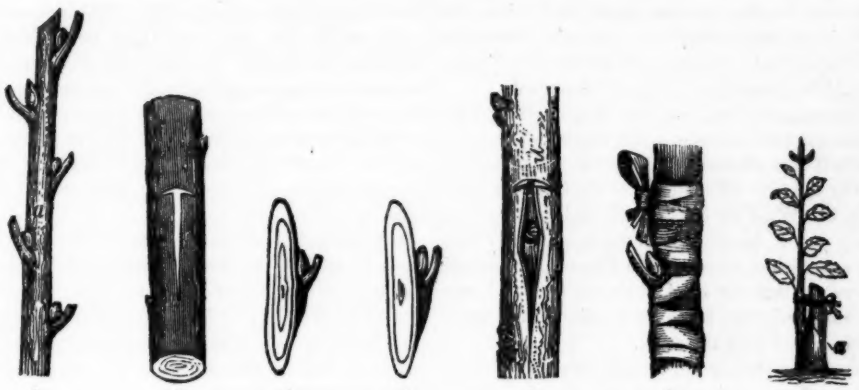
LUNAR INFLUENCES.

In the July number of the Albany Cultivator, p. 230, is an interesting article on "Irrigation in Switzerland," taken from the *Journal of the Royal Agricultural Society*. Coming so far, and through such a medium, it must be worthy of regard; nevertheless, the following passage, relating to the influence of the moon upon the growing of grass, needs some collateral support:

"M. Herzog also informed me that he never irrigated during the full moon, as he had always observed that when the meadows were allowed to remain in water during the clear moonlight nights, that the grass was perceptibly weakened, and that its very color was affected. He had applied water to different parts of the same meadow during the full and new moon, and had experimentally verified this fact."

That this gentleman's observation of the *growth* and *color of the grass* may have been as mentioned, we will not presume to question. But that *the moon* was the cause of this, we think there is no good reason to believe. The custom of charging the moon with this and that influence, has been so common, that many things have been placed to her account, with which she is in no manner chargeable. Conductors of scientific journals should be careful in giving circulation to such fanciful notions. Suppose an individual should have observed, for several years, that the blight upon the potato made its appearance on the *third day* of the full of the moon in August, and should have drawn the inference that this blight was caused by the direct rays of the *full moon;* would not such an inference be plausible? It is hardly worth while to wander to the moon for causes that can be found much nearer home.

July 19, 1851.



1. 2. 3. 4. 5. 6. 7.

BUDDING.

1....Stick of buds.
2....Stock prepared for the bud.
3....Shield or bud with the wood in.
4....Bud with the wood taken out.
5....Stock with the bud inserted.
6....Stock with the bud tied in.
7.....Growing bud tied to the stock.

Budding, though a simple process, that may be readily learned and practised with ease and expedition, is wonderful in its operation. There are many kinds of fruit that can be propagated rapidly only by this process, and by grafting, which is similar. The apple and pear are propagated very slowly and with difficulty by layers, cuttings, and inarching, and almost every variety will fail to produce its like by seed.

But budding affords so easy and rapid a multiplication of trees, that from one tree a thousand may be produced in one year, and each one afford numerous buds for a further multiplication. So that a single tree, of excellent variety, may be scattered all over the country, in a few years, or over the world, so far as civilization, and, consequently, useful arts, adapted to an improved condition of society, have extended.

Any one who would practise budding, and is not acquainted with the operation, should learn from a practitioner, if convenient; but he may learn the art by reading. In this way we learned it, and our first attempts were successful.

The buds should be cut from shoots of the present year's growth, that are becoming ripe or firm, as those very tender or succulent are too soft, and more liable to fail. There is often a great error in not preparing the stick of buds immediately after cut, for the moisture is constantly passing into the leaf; and sometimes on a hot dry day, the buds will be spoiled in two hours, if the leaves remain on, the bud becoming dry and dead.

In preparing the stock, it is better to make the cross cut in a circular form, as in Fig. 2, that the band may cross it, rather than press into the cut. The bark on each side of the perpendicular cut, at the top, should be raised with the handle of the budding-knife, by lifting, not by forcing it down between the bark and wood, which may disturb the *cambrium*, or new layer of soft matter, called *sliver*, in some sections.

Some years past, it was a general practice to take out the small slip of wood cut out with the bud, which is represented by the inner circle, Fig. 3. Of late years, most persons, and nearly all who have recently commenced the business, leave the wood in. Old practitioners say, in regard to this new mode, that it is better to take out the wood in buds from rather large, firm scions; but when the scions are small and succulent, it is better to leave the wood in. Beginners will generally succeed better by leaving the wood in, as they are liable to injure the bud or bark around it, in removing the wood. Many budders always leave the wood in, and succeed well, and this mode is the most convenient; and this will give a preference for the American mode over the slower English process. In taking out the wood, if the root of the bud come out with it, which may be known by a minute hole in the bud, at the point marked in the centre of Fig. 4, that bud must be rejected. This may be prevented by cleaving off the wood with the point of the knife, to the root of the bud, and then cut the wood off there, smooth with the bark, with a thin, pointed knife.

Some budders use small thin gouges, with a very keen edge, to take out the wood. They are made on a circle generally, corresponding with that of the scion. The better way is to have a pair, one for large scions, the other for small. They are hung by a string, at a convenient height for the hand to take hold of them instantly, and their shape is such, being flat at the hand, and a little curved, that the operator may know when he has them in the right position for use, without looking at them.

This gouge is run between the wood and bark, and the wood is taken out very neatly, and in less time than in any other way; and it is sure to save the root of the bud. In cutting out the wood, the gouge should be pressed gently against the wood.

In cutting the bud from the scion, insert the knife below the bud, and take a thin slip of wood, especially if it is allowed to remain in. After slipping in the bud, cut off the bark at the cross cut, as in Fig. 5. Wind the band closely and neatly around every part of the cut bark of the stock, barely leaving out the bud, as appears in Fig. 6. As the stock grows, so that the band binds too tightly, loosen the band and retie, and let it remain till the bud is firmly united with the stock.

Various materials are used for bands in tieing in buds. Most nurserymen select a nice, soft Russia mat, which is a good and cheap material, and easily procured. The matting should be wet, and used moist. The inner bark of Bass Wood or American Linden is excellent for bands, if it be soaked several weeks in water, to soften its fibre; otherwise it is too hard and stiff. A great deal depends on putting on the bands; if they are only a little too loose, the buds will fail, and this is very liable to occur under some circumstances. For instance, if the bud is from a small stick or scion, and the wood is taken out, and it is set in a rather large stock, there will be a vacant place between the bud and stock, unless it be tied pretty close, so as to press the bud down to the stock.

As to the time for budding, no definite rules can be given. It varies with the season, the weather, the age and growth of stocks, the ripeness of the buds, and other circumstances. We generally commence about the first of August. First with the plum, then the cherry, pear, quince and apple, extending nearly, and sometimes quite through the month. If the cherries are young and vigorous, they may be omitted till the middle or latter part of the month.

We have budded cherries the first of August, as they appeared to be nearly done growing; afterwards the weather became wet and warm, and the trees grew more than one-half, and threw out the buds, and we budded again the first week in September with success. Some seasons we have known the pear to stop growing so early that it could not be budded after the first week in August. Again, we have known it budded the first week in September, and notwithstanding it was so late, the buds started, and grew an inch or two that fall, and the winter killed them. So no precise rule can be given for future action, any more than for the time to cut hay or grain. The better way is to begin in season, and if there be a failure from budding too early, repeat it. It is necessary that the stocks should continue to grow about ten days after the buds are set, that they may unite firmly with the stocks.

Peaches should generally be budded from the first to the middle of September. Old trees early in the month, but young trees from seed this season, about the middle. Generally vigorous trees of two years' growth should be budded about from the 5th to the 12th of September. We have succeeded in budding peaches as late as the 20th of September, but warm wet weather succeeded. If the weather had been cool and dry, they would have failed.

A great deal of care is necessary to see that the bands do not bind too closely, and to see that they are properly retied after being loosened. Generally the bands need to be loosened in about ten days after budding; sometimes earlier, and frequently later. In some cases the bands will not bind too tightly during the season.

ORIGIN OF HOUGHTON'S GOOSEBERRY.

As this gooseberry is worth far more than any other variety, and probably worth more for general cultivation than the thousand imported kinds of boasted excellence, its origin is of some importance, particularly as the good people of Lynn are pleased to claim its origin, and Mr. Abel Houghton, who raised it from seed, may justly indulge an honest pride in conferring so great a favor on the community.

Our attention is called to this subject, from seeing an article in a late number of the Boston Cultivator, stating that Houghton's Seedling Gooseberry originated in Salem; and though the article appears as editorial, we recognized that it was a copy from a western work.

Now if the editor of the Cultivator would consult some of the back volumes of that paper, or the American Fruit Book, instead of works published in a distant part of the country, on the subject of New England fruits, he might furnish his readers with a correct history of this gooseberry—might instruct with facts, instead of misleading by error—and do justice to all concerned. As this fruit is a favorite with us, we feel interested in having its history truly chronicled.

For the New England Farmer.

TO PROTECT TREES FROM MICE.

Mr. Editor:—I noticed in a back No. of the Farmer a communication on coal tar to prevent mice from destroying fruit trees in the winter season. As the writer of that article did not approve of coal tar, I will give my method in protecting trees from mice. I take sheet lead or tea chest lead (which can be bought for a nominal price) and cut it into strips eight inches wide and sufficient length the other way to go around the tree once and a half or twice; then wrap it around the tree lightly and it will stay without any further trouble. It can be taken off in the spring and laid away for subsequent years. I have tried the above method with entire success.

L. W. Stow.

New Haven, Vt., July 16th, 1851.

For the New England Farmer.

THE WILLEY STRAWBERRY.

Mr. Editor:—In your number of the Farmer for June 24, I notice a query respecting the Willey strawberry. I have, as you remark, expressed my belief that the variety known here and distributed pretty largely by myself, as the "Willey," may be identified with the "Hudson" of Cincinnati.

Mr. A. H. Ernst, of Cincinnati, a gentleman well known to the pomological world for his enthusiasm and correctness in these matters, doubted my views. I therefore requested him to send me a few plants each, of the Hudson and Willey, as he had them; this was done, and I planted them with great care in beds, side by side, that I might examine them in connection. They both fruited last and the present season, and referring to my notes made in portfolio, I find as follows:—"The berry of Willey rounder and borne on shorter footstalks, trusses larger and more abundant in fruit, flavor slightly more acid than the Hudson.—Neck not as universal or as distinct as in the Hudson." My impressions of their identity were before made from my recollections of the Hudson, when living at Cincinnati, and so nearly were they alike that I could not class them as distinct, until after having thus carefully examined them side by side for two years.

The origin of the Willey seems unknown, and cannot be traced other than as follows:—Two varieties of berries were brought here some years since from New York. On opening the bundle for planting out, the name of one variety was mislaid and finally lost. These passed into the hands of Mr. Willey, then of Cleveland, who fully distributed to all that wanted, as the plants increased; but at the same time without having care taken to eradicate seedlings of chance. The result has been that the variety known and grown by many as the "Willey" is a mixture, and having more false than true plants. The Willey is pistillate.

Respectfully,

F. R. Elliott.

Cleveland, Ohio, July 2, 1851.

For the New England Farmer.

THE POTATO DISEASE.

Mr. Cole:—On Saturday last, I was informed by Mr. Page, the superintendent of our town-farm, that while examining his early potatoes for the insect spoken of by Mr. Flanders, he had discovered a depredator of a much more formidable character, and such as he had never before seen. He described it as a worm, about half an inch in length, that eat the leaves of the potato, in a manner not unlike that of the silk worm, on the leaves of the mulberry. On going among his potatoes, I found that his description was not exaggerated. On every hill, more or less of these worms were to be found. On some of the leaves, clusters of half a dozen were found together, voraciously devouring the leaf. Some of the vines were entirely stripped of their leaves. If this insect should spread among the potatoes, as its appearance now indicates it may, it is apparent that it must destroy them *root and branch*. I called the attention of a gentleman* of as much observation in these matters as any among us, to this insect, and he said he had never seen anything like it before. It struck me as being sufficiently novel to be worthy of notice. The worm appears to be of every dimension, from a half-inch in length downwards. Its head is black and shining. Its back is a yellowish brown. It has six legs in front and two in the rear. Its general appearance is sluggish. Its movements and manner of eating very much resembles the silk-worm. I state such features as I saw, not knowing its scientific characteristics. I do not put it forward as the cause of the *potato rot*, because I have little confidence that *any insect* is the cause, but I do think it threatens destruction to the potato wherever it abounds. Numerous deposits of its eggs, of a yellow color, were to be seen on the stocks and leaves where it had been.

In connection with this allow me to state, that Mr. Page finds a small *black fly* on all his potatoes. operating very busily, and puncturing the leaves with innumerable holes, about the size of a common pin. He thinks these insects are not new. He thinks he has seen such ever since he has known the potato. He has made a liberal application of lime upon his fields, to save his crop if possible. The last year he lost by the *rot* about one thousand bushels. He is a farmer of much practical observation, whose judgment is worthy of entire confidence. Very truly yours,

Danvers, July 7, 1851. J. W. P.

*Dr. Andrew Nichols, late President of the Essex Nat. His. Soc.

Remarks.—We have had this same kind of a worm on our potatoes for several years. Sometimes quite numerous in patches, or on a few hills; and another season, but few were seen. So we do not think that they will be very numerous, and generally destructive.

There are numerous insects that infest the potato, generally doing but little injury. As insects are something tangible, and may be magnified into importance by glasses of great power, it is high time that those who hold that they cause the potato rot should give us something definite on the subject—should collect the insects, describe and exhibit them.

For the New England Farmer.

THE SEASON, THE CITY AND THE COUNTRY.

Summer's beauty is around us—warm winds, cool dews, refreshing streams, rich foliage, waving trees, shady woods, verdant flowers, all conspire to enjoyment. The whispering insects on the ground, the hum of bees among clover, the song of birds in the boughs, the bleatings of cattle over hill and dale, the sun's first rise in a heaven of blue, his last rays over the hills of the west, the balmy hour of evening with the soft moon far above, awaken feelings which nothing but poetry can express; nay, reader, have not poets ever been trying to give expression to what is inexpressible—the inward condition of soul whose pulse beats ever in unison with nature without.

But alas! the resident of the city hears little of rural sounds, sees little of its beauty and feels less of its enjoyment; what he sees must be passing glimpses, what he hears he heeds not, and what he imagines must come through the pages of the

novel, the stage scene or the canvass of the painter. How he strives and struggles to surround himself with artificial substitutes, and still how painful is the void! The frivolities of dress, the nicknamed ornaments of home, the extravagant expenditure on appearance in everything, all fail to yield solace to a mind whose attributes have ever been love of harmony, beauty and wisdom.

Dweller in the city,—advantages we know you have; even some of them of a refined kind, we admit; but is it true that intellectual life can be enjoyed to greater perfection in the city than in the country? Can the city soothe the woe-worn spirit, relieve the limbs from disease, promise hope for the future, give relief in the decline of life, or make the blood flow as quick, as healthful through the veins of youth? I need attempt no com parison; the poet uttered truth,—"God made the country, man the town." J. B.

Spencer, Mass., July, 1851.

For the New England Farmer.

DOCTORING A TREE.

It is an important point to know how to select a good, healthy tree. It is a very important matter to know how to take up a tree, how to prepare a place for setting it, how to prune and prepare the roots of it, and how to set it out in the ground. But, after all, trees, as well as men, are liable to be sick; and the doctor's aid is necessary when they are sick, to preserve them alive and restore them to health again.

Last year I had a sick pear tree. It was, to all appearance, a very difficult case to cure. It had been transplanted in the spring, from a nursery near the sea-shore in Massachusetts, to a farm among the hills of New Hampshire. It so happened that the tree got a bad position in the bundle where it was packed for transportation, and the roots became much broken; besides which, a cord chafed the bark entirely off of one side of the tree where its limbs branched. After it had been set in the ground for some time a careless hand drove an ox-team on to it, and tore off the bark near the ground to a sad extent.

It leaved out with a fine appearance; but as the heat of summer came on, it wilted, and every leaf turned black. Here was a fearful case. The tree was too valuable to lose. Well, then, it must immediately be put under the care of a tree doctor.

Rationale of proceedings.—The leaves being entirely dead, the bark of the twigs dried, and even the bark of the limbs and body were dying, there could be no more support gained to the tree from the atmosphere. The roots too much broken and impaired to give much assistance, it was evident that the sap which the body contained was not sufficient to reinvigorate the limbs of the tree; while every limb and every twig which was not entirely dead or dryed, was drawing from the body, and rendering its fate equally hopeless with that of the limbs and twigs. The first step, then, is amputation. The whole of the top, limbs and the twigs depending upon them, must be taken off, so they should draw no more away from the body. Then boards are put upon the sunny side of the tree, a little distance from it, to allow the air to circulate freely, and at early evening, as often as convenient, the tree is gently showered with pure soft water, not very cold.

Such was the treatment of my pear tree. I watched the tree with expectation of seeing it recover. After a few weeks had passed, it began to assume the appearance of a living tree. The few small twigs on the side of the body first put out leaves, and then appeared new shoots, and before the cold of autumn stopped its progress it had given the most positive assurance by its growth that it was positively *cured*. This year the tree grows finely.

My opinion is, that without taking off the top of the tree quite down to the body, its life could not have been saved. Even then, without lessening the sun's action upon the body, the case would have been doubtful.

When observing the difference in the success of different individuals, in managing young fruit trees, it becomes evident that many lose a great deal of labor in setting trees, and no little money which they pay for them, by not learning how to treat them when they are sick.

We have a great number of men who offer their services to cure "the ills that flesh is heir to;" we have our "horse-doctors" and our "cattle-doctors;" but is it not also important to have more than we now have among us who know how to doctor a fruit tree? I submit the question to those who lose many of the trees they set with the hope of being soon supplied with choice fruit.

While upon the subject, I will mention another case of curing a tree. It is an apple tree of the Baldwin variety. In the summer of 1843 it produced a few apples, perhaps a peck, all of which were small, and quite worthless; not coming to maturity. Several limbs of the tree died during that season, and the leaves fell prematurely from the rest of it. Most persons said that the tree was worth nothing, except for fuel.

In the autumn of that year I began an experiment for the "*cure*" of the tree. The soil about it had been stirred by cultivation from year to year; but as the tree stood upon ground slightly elevated, the surface soil had been worked away from the tree, leaving the large roots too near the surface, and the the surface itself quite hard, among the roots. The first step was to deepen the soil. Rich earth was carted under the tree, sufficient to cover the ground eight or ten inches deep all around the tree to the distance of perhaps fifteen feet. In the spring of 1850 this was leveled down and a large dressing of manure spread upon it. Then all was ploughed together, and the ground was planted. The tree blossomed about the same as the year before. Early in summer the whole top of the tree, (the dead limbs having been removed,) assumed an entirely new appearance. The dark colored and luxuriant foliage bespoke a change. In autumn I took from it a quantity of apples about sufficient, even at the low price at which Baldwins sold last year, to pay all expense of doctoring the tree. And what is to me the best of all, they were equal in beauty to any I ever looked upon, and as rich in flavor as any I ever tasted. Under and around the tree was a luxuriant growth of potatoes and winter crookneck squashes, which more than settled the bill for repairs. This year, how with the tree? It is even now bending its limbs quite low with a splendid burden of fruit, while the whole tree bears the best appearance of health. In gratitude for a little friendly care, it is making a bow, in a manner so graceful and beautiful that it wins the admiration of ev-

ery observer. It teaches the thinking observer a great and beautiful lesson. It proclaims that nature is never ungrateful, in trees that wave, or in plants that grow. He that blesses the earth shall be blest by the earth.

Mason, N. H., July, 1851. C.

For the New England Farmer.

EDUCATION AND FARMING.

Mr. Editor:—It is often intimated that it is unnecessary for farmers to have any more than a common education, by which it is meant almost no education at all, and indeed it is a lamentable fact, that farmers in general are almost entirely destitute of what is properly denominated *learning*, although nearly all in our country know how to "read, write and cipher," and hence pride themselves in the belief that they have a sufficient amount of knowledge for most "practical purposes."

It may be well to examine the ground for this too prevalent opinion, and to show, as I shall endeavor to do briefly, that it is entirely erroneous, and that on the contrary a thorough education is as useful and necessary for those who cultivate the soil as for those in most other professions,—in order to work to the best advantage, that is, to gain the most with the least labor.

To say that a man is capable of being a good farmer without understanding the principles of agricultural chemistry, without knowing the nature of the different soils, the effects of the various kinds of fertilizers on the several crops, and a thousand other things "too numerous to mention," many of which are comprised under the head of chemistry, would be absolutely absurd.

It is a fact undisputed by those whose opinions are to be credited, that a man in order to be in every sense of the word a *good farmer* must have a thorough knowledge of the principles of agricultural chemistry, and must know how to put this in practice. Now, to intimate that a vast majority of our farmers are almost destitute of this knowledge, would be only to say what would be readily admitted; but this is not the worst aspect of the matter, for the knowledge requisite for the best farming is not only not generally possessed, but it is not in most cases realized, if indeed it is known that such scientific knowledge would be of any value.

That this is the case is plainly admitted, when it is considered that a great many, perhaps a large majority, refuse to take an agricultural paper, even at the mere nominal prices at which they are now afforded; and if it is suggested to them that such a paper would be exceedingly useful, that it would pay many times its cost on account of the valuable information it would give, it would be too probable that the reply would be that "book learning" does more harm than good, and that they had always "worked on a farm," and hence that there is very little as regards agriculture which they do not already understand; and perhaps the case of the man would be related, who, following the directions as given in a popular work on agriculture, soon after his *beans* which he had planted "were up," *cut them off*, the book saying that thereby the crop would be greatly increased.

If it is not a fact that it is highly important for farmers to be well educated, why is it that professional men who have retired from business, and devote their attention to farming, are almost always patterns for good management, that their farms are always better than those of their neighbors, and that from them they realize a greater profit than others?

It may be said in reply that they have means aside from their farm, and that thus they are enabled to manage in a manner very different from those who have nothing but their farms and the appurtenances thereto, and were it not for this they would not be better farmers than others. It is true that this is often the fact, that they have extra money, but yet it is not universally so, for the cases are not rare, in which a liberally educated man, and sometimes men in the learned professions, being disgusted at their employment, choose farming for their calling, and so well succeed as utterly to surprise their neighbors.

Thus it is almost capable of demonstration that farmers should be men of intelligence and education, and indeed the truth of the theory might be plainly shown, from the fact that a person intending any other profession must specially qualify himself for that particular business, and hence, as of course, a farmer is not exempted from the same duty.

Thus I have "spun out" a long article, and if it shall have induced but *one* farmer to more thoroughly inform himself of all topics connected with the important business of agriculture, I shall be amply rewarded for my labor. D.

Franklin, N. H., July 5, 1851.

Remarks.—One reason that intelligent gentlemen, who leave other professions for farming, do not make it profitable, is that they often have ample means, and farm it for pleasure, thus accomplishing their design, which is to enjoy life. They often spend thousands of dollars on buildings, and hundreds or thousands of dollars in ornamenting their grounds, making beautiful walks, groves, ponds, &c., which the farmer would not spend while profit was his object.

We asked a gentleman of considerable means, who had thirty acres of land, whether he attended to farming; and he replied, "no," he was not able. We asked for an explanation, and he said that he wanted several thousand dollars, if he attended to farming, to improve and embellish his lands. There are many, who do not wish to farm it for the sake of dollars and cents.—Ed.

For the New England Farmer.

MULCHING GOOSEBERRIES.

Mr. Editor:—I noticed in a recent number of the Farmer, that old hay, &c., were recommended as mulching for gooseberry bushes. I have some set out where the soil is full of orchard grass, and the course I have taken with them has been to raise a bank around them or cover the ground under them with small stones, and the result is, I am rewared with a good crop. Stones possess two advantages over straw for this purpose; they afford the mice no shelter, and are always there, and they do not rot. S. Tenny.

N. Raymond, Maine.

☞ True charity consists in the performance of every duty of life, from the love of justice.

For the New England Farmer.

HONOR TO THE FARMER.

Yes, honor to whom honor is due. And to whom is it due if not to the farmer? The honest, industrious farmer need not envy monarchs or kings, for who is so happy and independent? and who so free from the cares and ills of life, as the industrious, temperate farmer? Surely no one. His field is a flower garden, yielding him both pleasure and profit. He walks forth into his fields, not like those who revel in affluence, to while away their wearied leisure; not like the mechanic, to invigorate his emaciated frame; but like the robust man going to his field of labor, which to him is a field of pleasure. And what employment is so natural to man as agriculture? None. It is man's nature to till the ground. It is the employment intended for him by nature. It is as instinctive to man to till the ground as to bees to gather honey. When we consider that over two-thirds of the population are employed in the pursuits of agriculture, that it is natural and indispensible to man's existence, why should so many of our farmers consider their station a low one? Especially our youth. They seem to think it is not respectable to dig in dirt, and away to some disreputable work-shop, where they soon see their folly, and return to the domestic life of the happy farmer. Farming is every day becoming more and more popular. The time is approaching when the farmers will be looked up to as the most popular and noble people in the world. They are in reality so now. I have seen the most noble and intelligent of men employed in the pursuits of agriculture. And many of our most noble statesmen, as well as those who have attained the highest degree of eminence and honor, were farmers.

Q. Gavins.

June 30th, 1851.

For the New England Farmer.

MANAGEMENT OF MOWING LANDS.

Mr. Editor:—The judicious management of mowing lands is one of the most important features of good farming. Any thing that will increase their productiveness tends to improve the condition of the farm, as the cutting of a good quantity of hay is the most practicable means of obtaining fertilizing manure, with which to enrich our soil; and whatever tends to lessen the fertility of our meadows will necessarily affect the productiveness of other farm crops and the profits of farming.

I believe the practice of grazing mowing lands to much extent is an injudicious one. Every one is sensible that the feeding of them in the spring will diminish the amount of hay, but it is more injurious to feed them in the fall, for several reasons. If the aftermath is allowed to die down on the sward, it will have the effect of a top dressing, enriching the soil, and thereby increasing the amount of the succeeding crop of hay. If stock were not permitted to graze upon our meadows, many of them, I think, would show no perceptible deterioration in the soil for a series of years, provided the hay was cut when in bloom, which is decidedly the best time, as we then obtain a better quality of hay and the soil and roots are not as much exhausted as when the grass stands until the ripening of the seed.

Some of the most valuable grasses are quite liable to "winter kill," and if the sward is well clothed with grass when cold weather sets in, it forms a very important protection against the life-destroying effects upon the roots by the freezing and thawing of the turf. Another advantage of not feeding meadows, is that the aftermath tends to keep up an equal state of moisture and heat through the summer months, and the grass is much less liable to be injured by a drought and the land to become turf-bound.

An occasional top dressing of mowing lands is a matter of the highest consequence, when the manure is properly prepared and applied, and should be practised as much as possible without robbing the tillage crops. Manure applied to grass land should be well decomposed, and it is the best way to compound it with rich swamp muck, mould or earth. From a compost made of equal parts of yard manure and one of these substances, we may, under many circumstances, derive as much and even more benefit than from clear manure.

It is an excellent and almost indispensable practice to pass the brush and roller over the manure after it is spread; this serves to more thoroughly pulverize the manure and press it down upon the sward, so that the roots will sooner feel its effects, and will be subject to less waste by evaporation. Mowing lands that are not too wet, should be broken up in from four to seven years, according to the character of the soil. The turning under and decay of the turf will, I think, generally enrich the soil as much as two-thirds of an ordinary dressing of manure.

I believe that land can be as much benefited for the production of grass by deep ploughing, as other farm crops; for the roots will attain greater size and vigor, and are much less subject to be injured by drought, frost, &c.

By enriching our meadows, it gives a chance to enlarge our pastures, and thereby remove the necessity that some farmers feel to graze their mowing lands.

We should never overstock a farm with the view of increasing the profits of farming. Seventy-five sheep well kept will give us as large an annual income as one hundred kept in poor condition, and in the same proportion with most other kinds of farm stock; besides, when pastures are fed very close, it has a similar effect to the grazing of meadows; and if stock are kept so short through the foddering season as to eat up all the straw, orts, &c., the manure is not near as valuable, as it is necessary that there should be coarse forage mixed with it to retain its strength by absorbing the juice, gases, and prevent waste by evaporation.

Pomfret, Vt., July 10th. Eben'r Bridge.

A Thriving Animal.—Mr. A. A. Knowles, of North New Portland, informs us that the calf belonging to him, which weighed one hundred and twenty-six pounds, at the age of four days, weighed in four weeks from that time, two hundred and thirty pounds, being a gain of one hundred and four pounds in just four weeks.—*Maine Farmer.*

To Restore Pork.—In warm weather, the brine on pork frequently becomes sour and the pork tainted. Boil the brine, skim it well, and pour it back on the meat boiling hot. This will restore it even where it is much injured.—*Genesee Farmer.*

THE DOWNER CHERRY.

SYNONYMS,—*Downer's Late, Downer's Late Red.*

This cherry, from its combination of excellent qualities, in tree and fruit, is one of the most valuable kinds that have become generally known to the public. The tree is very hardy, a good grower and great bearer. It usually has a very vigorous and healthy appearance. The fruit is the most hardy of any kind within our knowledge. When we have had two or three weeks of wet weather, about the time the cherries ripen, we have noticed that while half the crop was rotten of many varieties, and the most tender kinds were nearly all spoiled, the Downer cherry was scarcely any affected. This is of great importance, as a great many cherries are lost by wet weather. This cherry was raised from seed by Samuel Downer, Esq., a veteran pomologist, of Dorchester, in this vicinity. It was budded with other cherry stocks in the nursery, but the bud failed, and the tree was allowed to grow and bear. Mr. Downer has raised several seedlings from the original tree, all of which resemble it very strongly, but are generally slightly improved in flavor.

The fruit is tolerably large; roundish, slightly heart-shaped; red, often mottled with yellow, light amber in the shade; stalk rather long and slender; flesh very tender, extremely juicy, sweetish, a slight mazzard bitter till fully ripe, and then very fine, rich and luscious. It ripens late with the Honey Heart, generally from the 5th to the 12th or 15th of July. The tree grows upright.

For the New England Farmer.

ON EMIGRATING WEST.

MR. EDITOR:—Sir—Is it advisable for a man possessing a comfortable home, a small farm, and a quiet wife with a family, to give up all these conveniences, leave the home of his fathers, tear himself away from all valuable society and emigrate to the West, haunted by the idea of bettering himself, which, in his notions, means getting more money? The loss of society does not so much affect the man himself as his wife and children. And what money or land compared to the effect which a total absence of school instruction will have on his growing children? In clearing a farm at the West, much time and toil is expended, which, if spent upon his farm at home, would quickly have raised the emigrant to the position he so much covets.

Though emigration is not, in my opinion, the best plan for people in such situations, yet there are many to whom it is adapted. If a young man possesses a good constitution, is well used to the labor of a farmer's life, and the owner of from three to five hundred dollars, has a desire to emigrate, I think it would be the best course for him to do so. Let him take his wife, or, if he have none, get his lady-love's consent *to* have one, for a smart young man with the above qualifiations is sure to have a lady, and without loss of time start for the land of his hopes. A young married man going there is in a different position from a man with a family, for by the time his children are of a suitable age for instruction, it would be highly probable that the country around him would be thickly enough settled to support a school.

I think nothing can hinder a young bachelor

from going thither, especially if he intends to remain single a length of time. There is no doubt that such a person could do well. Suppose a case. A young man 21 years of age, having $200, emigrates, chooses the locality for his home, and buys, we will say, forty acres, the government price being $1.25 per acre; land costing $50; his other expenses need not amount to more than one hundred dollars, which, allowing fifty for his passage out, uses up his funds. He builds his hut—clears his land gradually, a small piece year by year—sells his produce at a low price, to be sure, still for something, and, a bachelor's expenses being small, gets along quite easy. The time comes when he feels himself competent to take charge of a wife and let her do no more work than a woman should do. He has a cleared farm, and a good house, &c. By going to work in this way he saves his own health, spares his wife a great deal of hard labor, and fairly starts in the world with a very pretty property. This I think is a good course for any young person who desires to emigrate and is free from all incumbrances.

Yours, S. S. P.

For the New England Farmer.

INQUIRIES.

Mr. Cole:—Having read an article in the last Farmer, from your correspondent, B., on "*Saving Manure*," I wish to inquire which he thinks is the best method of securing cattle in the stalls; as he says they should be put up every night; and I would also like your opinion of the same. And, furthermore, I wish to inquire what kind of ox-harrows are the best for smooth land. And likewise inform me what kind of horse-rakes are best adapted to the same.

Yours truly, J. Dimon.

Wakefield, R. I., July 6, 1851.

Remarks.—Tie chains are safe, economical and convenient, and allow the animal to lie at ease. We suppose the square harrow drawn by one corner, is as good as any simple construction. There are other implements variously constructed, made in different parts, and joined together by hinges, which may work more evenly and effectually, but they are more expensive.

On smooth land, the revolving horse rake is a valuable implement. On rough lands the spring tooth rake works better, but it is hard to manage, and it gathers much dust with the hay, which is a serious objection. The independent horse rake is adapted to both smooth and rough land, and is very well approved of. But it is of recent introduction, and has not been tested extensively.

For the New England Farmer.

ANOTHER PROFITABLE COW.

Mr. Editor:—I saw in your valuable paper of June 5th, an account of a profitable cow, given by Mr. Gleason, of Marlboro', Mass., and I thought I would give you an account of a cow which I have. I commenced keeping her milk separate, 8th of last June, and continued 14 days only—she gave 812 lbs. of milk, averaging 58 lbs. per day, from which we made 36 1-16 lbs. of as handsome butter as ever graced any man's table. She was milked but twice each day; yarded her nights, and put her into good grass feed one hour in the morning, and one hour in the latter part of the day, and gave her four quarts of meal per day. The remainder of the time she run in the public highway. She is 9 years old, has had 8 calves; 4 of the last are heifers; two of them now give milk. We judge they are as good as the cow was at the same age. I will send the 36 lbs. of butter to the editor, or any other gentleman that may order it, or any other quantity that we may have, together with a sufficient testimony to satisfy any man of the facts. The cow is half native and half Durham.

Hoping there are many better cows than mine, I subscribe myself,

Yours, with respect, Shuball Dimmick.

Lyme, N. H., July 8th, 1851.

Remarks.—The above account shows a large yield indeed, and a great profit, but we must advise our friend that so high feeding on Indian meal, if continued long, will dry up and spoil the best of cows, as it had done in many cases before farmers had experience on this subject. Two quarts of Indian meal per day, with one quart of oil meal to each cow, is as high feeding on these articles as cows will bear in a long run. This accords with the opinion of many of the best judges, who have had long experience. Bran, shorts, roots and suculent food may be fed liberally.

For the New England Farmer.

LICE ON APPLE TREES.

Mr. Editor:—Charles Moody asks through the columns of the Farmer a remedy for bark lice on fruit trees. I know of no certain cure, but I have tried scraping, with very beneficial effect. A neighboring farmer who has had considerable practice in growing apple trees, assures me that to scrape them well and thoroughly, mop them in cold water a few times, will effectually remove them. We think they are frequently caused by the tree's being set in unnatural soil, improper trimming, &c. He also recommends a wash of tobacco to be beneficial. Yours, truly,

Q. Gains.

June 30, 1851.

NATIVE STRAWBERRIES.

Mr. D. W. R. Davis, of this vicinity, found a few years ago a solitary strawberry plant growing on his place, of remarkable size and vigor. He had no knowledge of its origin, but as it possessed many attractive points, he transplanted it with every care and it soon bore fruit. He was so well pleased with the quality that he bestowed great attention upon its after culture, and has now increased his stock to some sixty plants, each one so large as to require twice the space of ordinary strawberry plants. The flower stem shoots up four to six inches above the ground and bears the berries in clusters out of the reach of sand and dirt. Mr. Davis brought us yesterday a specimen of the fruit, which is unquestionably the finest as to size and flavor we have ever seen. The berries are equal in dimensions to Hovey's Seedling, and pos-

sess so little acidity as to require no sugar. They have received the name of "Davis's Seedling," and are destined to make as much noise among the cultivators of this delicious fruit as any yet brought into notice.—*Mobile Tribune.*

INSECTS NOT THE CAUSE OF POTATO ROT.

We copy the following remarks and communications from the Salem Observer. Dr. Harris shows conclusively that all the various theories about insects causing the potato rot are without foundation; and this has always been our view of the subject. The sudden and extensive manner in which this malady comes like a blast upon us over a vast extent of country, and sometimes nearly over the whole world, clearly shows that it cannot be the work of insects. Again, if insects were the cause, they must be so numerous that they could be discovered.

THE POTATO ROT.

The correspondence which we publish below will, we think, be equally valuable and interesting to a large number of our readers. The subject is one whose importance to our whole community cannot be over-estimated, and which has for the last few years formed a staple article for newspaper discussion. The large reward offered by our Legislature for a solution of the mystery, has brought forth one or two new theories on the subject, and we feel that no apology is necessary for taking up considerable space with Dr. Harris's letter. It is probable not necessary for us to inform our readers that Dr. Harris is the Librarian of Harvard University, and that, as an Entomologist, he is acknowledged to have no superior. His remarks, therefore, have the weight of *authority* to support them.—*Salem Observer.*

Danvers, July 8, 1851.

To the Editors of the Salem Observer:

GENTLEMEN:—In your paper of the 5th inst., there appeared a brief note, intimating the belief jhat the pretended discovery of the cause of the intury to the potato, in the *small black bug* mentioned by Mr. Flanders, would be found a *delusive hope.* Feeling a deep interest in this subject, I addressed a line to Dr. Harris, of Cambridge, giving him such a description and specimen of insects, found on the potato, as I had at command; and have received from him the following letter, the publication of which I trust the author will pardon, as the subject is one of great public interest at this moment. Very truly, your obt't servant,

JOHN W. PROCTOR.

Cambridge, Mass., July 7, 1851.

John W. Proctor, Esq.:

DEAR SIR:—Your description of the insects on the potato vine, with the specimens (though the latter had suffered some in transmission,) applies well to the *larvæ* of *Crioceris trilineata*, described in the work on insects injurious to vegetation, pages 95—96, to which I beg to refer you for particulars,—at the same time thanking you for your offer of other specimens if required. You may be assured that this insect has nothing to do with the potato rot, which, as far as I can judge, has no connection with *insect depredations* of any kind.

A year or two after the potato rot appeared in England, a Mr. Smee thought he had discovered the cause of it, in the attacks of certain plant-lice or *aphides*, and he wrote a work on the subject, and dedicated it to Prince Albert. British naturalists, however, did not sustain him in his views.

Three or four years ago, some person sent to me, through Mr. Cole, a lot of insects, which he was confident were the cause of potato rot, having found them in considerable numbers on the vines. They proved to be the *larvæ* or young of a species of *Coccinella*, or lady-bird as commonly called, an insect innocent of all offence against vegetation, and living in all its stages upon plant-lice.

In the summer of 1849, a young farmer in Watertown brought to me a slender, striped, smooth caterpillar, (or worm as he called it,) which he found burrowing in the potato-stalks. I have found the same not only in potato-stalks, but in the stems of the common pig-weed. It is the larva of a small moth, and though capable of doing some mischief, it is by no means so common or so abundant as to warrant even a suspicion that it was the cause of the potato-rot.

Last summer, the farmer employed by Mr. Wm. C. Bond, astronomical observer, announced that he had discovered the cause of the potato disease, and stated that it was occasioned by the punctures of insects, great numbers of which were to be found on the vines. At my request, he collected and sent to me several of them in spirit. They proved to be identical with the little black jumping beetles that often infest cucumber vines, and which are described in my book, pages 103—104. These may be the same as those mentioned in your communication.

I could enumerate at least half a dozen more kinds of insects that are occasionally or always to be found, in their season, on the potato vines,—insects varying in size from the minute black *Haltica*, above mentioned, to the big potato-worm, or *Sphinx quinquemacuta*,—all of them destructive according to the extent of their powers, but innocent of the great offence, which might be charged to them with as much propriety as to other insects, of causing the potato disease. I will only advert to one more, namely, the *Baridius trinotatus*, an insect for whose history we are indebted to a lady, Miss Margaretta Morris, of Germantown. In the larva state it lives in the stems of the potato, where it is finally transformed to a little grey beetle having three black dots on its shoulders. This insect, though common enough in the middle States, I have never seen in New England, in the course of 30 years' observation, and am confident that it must be rarely found here, if at all. Miss Morris, when she first discovered its habits, thought that she had detected the real culprit, but has become convinced that the potato-rot is not caused by it, though the ravages of this insect are admitted to be very considerable.

And now Mr. Flanders comes forth, as the claimant of the premium offered for the discovery of the cause and remedy for this pestilence, telling his Excellency, the Governor, that "a *black bug* preys upon the leaf until it destroys the vine and causes the root to rot," &c., &c. The claimant ought at least to produce his *black bugs*, and have them examined by a naturalist, to see whether they are native or imported insects.

As the potato rot has spread over Europe, and

prevailed there to an alarming extent before it reached America, and as the disease found here occurs with precisely the same symptoms and results as in Europe, it must, wherever and whenever it appears, have *one common specific cause*. If occasioned by insects, then the insects causing it must be *of the same kind or species* in all regions where the disease has extended. It would be entirely unphilosophical, and contrary to all analogy and all experience, to attribute the disease to one kind of insect in one country, and to an entirely different kind of insect in another country,—to aphides in England, to "black bugs" in America, to *lady-birds* in Massachusetts, and to the *Baridius trinotatus* in Pennsylvania. It is a well-established fact that the insects of America and of Europe are not identical, excepting only in those few cases where some one species of one country has been introduced by the intervention of man into the other country. It has never been shown, and I think will never be proved, that any one species of insect, of sufficiently destructive powers to prove extensively injurious to the potato crop, is to be found alike on the potatoes of Europe and America; and until such proof is produced I shall continue to maintain the opinion that I have ever held, that insects have no concern or connection with the potato disease.

I have written out my views hastily, but somewhat at length, on this important subject,—as your inquiries and observations seem designed to call for my opinion. But though perfectly willing, as in the present case, to express an opinion, when asked, I have no wish to sit in judgment upon others, and might have maintained a reserve upon the latest humbug concerning the potato pestilence, if your own sagacity had not led you to suspect the smallness of its pretensions.

With respect, yours, T. W. Harris.

THE ANIMAL KINGDOM.

Sir Charles Lyell, in his Principles of Geology, offers some excellent observations in points in reference to the animal kingdom, which apply with equal force to the cause of vegetables. He says:

"The modifications in the systems of which man is the instrument do not, in all probability, constitute so great a deviation from analogy as we usually imagine; we often, for example, form an exaggerated estimate of the extent of the power displayed by man in extirpating some of the inferior animals, and causing others to multiply; a power which is circumscribed within certain limits, and which, in all likelihood, is by no means exclusively exerted by our species. The growth of human population cannot take place without diminishing the numbers, or causing the entire destruction of many animals. The larger carniverous species give way before us, but other quadrupeds of smaller size, and innumerable birds, insects and plants, which are inimical to our interests, increase in spite of us, some attacking our food, others our raiment and persons, and others interfering with our agricultural and horticultural labors. We force the ox and the horse to labor for our advantage, and we deprive the bee of his store; but, on the other hand, we raise the rich harvest with the sweat of our brow, and behold it devoured by myriads of insects, and we are often as incapable of arresting their depredations, as of staying the shock of an earthquake, or the course of a stream of burning lava. The changes caused by other species, as they gradually diffuse themselves over the globe, are inferior probably in magnitude, but are yet extremely analogous to those which we occasion. The lion, for example, and the migratory locust, must necessarily, when they first made their way into districts now occupied by them, have committed immense havoc amongst the animals and plants which became their prey. They may have caused many species to diminish, perhaps wholly to disappear; but they must also have enabled some others greatly to augment in number, by removing the natural enemies by which they had previously been kept down. It is probable, from these and many other considerations, that as we enlarge our knowledge of the system, we shall become more and more convinced, that the alterations caused by the interference of man, deviate far less from the analogy of those affected by other animals than we usually suppose. We are often misled when we insinuate such comparisons, by our knowledge of wide distinction between the instincts of animals, and the reasoning power of man; and we are apt hastily to infer, that the effects of a rational and an irrational species, considered merely *physical agents*, will differ almost as much as the faculties by which their actions are directed. A great philosopher has observed, that we can only command nature by obeying her laws, and this principle is true, even in regard to the astonishing changes which are superinduced in the qualities of certain animals and plants by domestication and garden culture. We can only effect such surprising alterations by assisting the development of certain instincts, or by availing ourselves of that mysterious law of their organization, by which individual peculiarities are transmissible from one generation to another. * * * * The distinctness, however, of the human from all other species, considered merely as an efficient cause in the physical world, is real, for we stand in a relation to contemporary species of animals, and plants, widely different from that which other irrational animals can ever be supposed to have held to each other. We modify their instincts, relative numbers and geographical distribution in a manner superior in degree, and in some respects very different in kind, from that in which any other species can affect the rest."

CORN FLOUR.

A new article has just appeared in our market, called "Extra Superfine Corn Flour." It is a preparation from yellow Indian corn, by Stafford's patent process, at the Atlantic Dock Mills, New York, and is warranted to keep fresh and sweet in any climate. This is a great desideratum, for hitherto no grain or meal has been more difficult to keep pure and sweet any length of time when exposed to the common vicissitudes of moisture or dryness, heat and cold. It is on this account that it has been so generally rejected in Europe as an article of food,—it could seldom be obtained there in its pure and untainted state. By mixing this prepared corn flour with wheat, rye or buckwheat flour, a very superior article of food is obtained, and which may be eaten by persons troubled with weak digestion. Those who have tried it in this vicinity, speak highly of it. It can be obtained of Davis & Mulliken, in this city.—*Maine Farmer*.

EFFECT OF PLOUGHING IN GREEN CROPS

AS COMPARED WITH FEEDING THEM.

It is yet a common notion that herbiverous animals have some distinct and peculiar mode of action upon the various constituents of their food, by which those parts expelled as excretæ are rendered more fit for the food of plants than could be the original food, rotted or decomposed in any other way. It is also ordinarily received that the deposits of a number of animals fed upon an acre of any green crop, will be more beneficial to the land than an acre of the same crop, ploughed in and properly decomposed in the land.

For some years past, I have endeavored to combat these opinions, but as they are still retained in some quarters, I intend in this letter to repeat my arguments, and to give instances where *practice* has proved the truth of theoretical deductions. I shall not here argue as to the amount of profit and loss attached to either mode of proceeding, as in fact, must always depend upon circumstances, of which the farmer is the best judge. Nor shall I attempt to prove that under all possible circumstances, to plough in a green crop will give a greater produce than to feed it off. For in case of exceedingly light lands, the mechanical action of the treading of the feet of the sheep, however, is, that under general circumstances, in ordinary soils, *the ploughing in of any green crop, and its subsequent decomposition in the soil, will give more manure to that soil than if the crop had been fed off;* and that the effect of this greater amount of manure will be seen in the subsequent crops. The arguments in proof may be stated as follows:—

Firstly: It is well established that animals in breathing, give back more to the air than they derive from it. They receive nitrogen and oxygen, and return them again, plus a certain excess of nitrogen, carbonic acid, and aqueous vapor. Animals also transmit to the air much insensible and sensible perspiration.

Secondly: The experiment of Boussingault and others have shown that the liquid and solid excrements of animals weigh less than the food from which they have been derived, and that as regards the food excretæ are deficient in *nitrogen*, carbon and hydrogen.

Thirdly: It is well known that animals consume a considerable portion of the farinaceous and oleaginous portions of their food for the production of *animal heat*, and the greater portion of the excess is laid up in the form of fat; that of the nitrogenous portion is consumed by the voluntary and involuntary motions of the muscles, and part forms fresh flesh for the growing animal. Of the inorganic matters of the food, a portion is required for the formation of bone. It is, therefore, quite clear, that there must be less manuring matter in the excrements than in the food, of which they are merely the unconsumed remains—*the ashes*.

Fourthly: It is known that animal and vegetable substances are composed of the same original elements; that all animal particles have first had vegetable life; that though the proximate changes and combinations of their aliments are most innumerable, yet that the results of the ultimate decomposition of animal and vegetable matter in contact with air are the same.

Fifthly: To sum up; if as it has been proved, he excretæ of animals weigh less than the food they have eaten; if there is a diminution of the most valuable of the ingredients in passing through the animal; and if in their ultimate decomposition, the food and the excretæ give the same products, it follows that the poducts of the decomposition of the original food will be greatest in quantity and richest in quality; but practical experiments are, in this instance, so easily made, that I should be wrong if I omitted to mention some of the numerous facts which experimentally prove the truth of my assertions. Mr. W. Trumper, Mr. Oakley, and others, have forwarded me the results of trials made on their respective farms. Mr. Trumper, in a field of rape part fed off by sheep, and the other ploughed-in, found in the succeeding wheat crop a difference of a quarter per acre in favor of ploughing-in.—*Mark Lane Express.*

CHEMISTRY APPLIED TO AGRICULTURE.

The true principles of farming are just beginning to be understood. It is but a few years, at least in this country, since the farmer has sought assistance, in his important vocation from the safe and sure guide of science. The processes of the culture of the soil have been handed down from father to son for a long period of time without any attempt at improvement. The time has already past when the tiller of the soil was content to produce just a sufficiency for the support of animal life, and that too of an indifferent kind. He has already begun to reap the advantages of calling in scientific principles to his assistance.

Within a few years much has been done to improve in a high degree the choice and delicious fruits of our climate. Our markets are now loaded with fruits of the most tempting kind, which by their abundance are brought within the reach of all classes of society. Who can estimate the amount of happiness and substantial comfort thus bestowed upon mankind?

For the last fifty years the energies of science have been in an unparalled degree bestowed upon inventions and discoveries in the principles of mechanics and the multifarious modifications in machinery, growing out of the motive power of steam. Let the same amount of scientific energy be applied to the investigation of the laws which govern organized bodies, both vegetable and animal, and the result of such investigation will no doubt be the knowledge of organized matter astounding as those remarkable physical laws which we are daily witnessing.

The whole community are beginning to be waked up to the importance of this matter. Our schools, especially in this State, are introducing the study of the principles of chemistry, as applied to agriculture. The guardians of the State Normal School are doing very much towards disseminating a knowledge of these principles, by preparing its pupils for teaching the same in the schools which they may hereafter be called to take charge of. When the teachers of our schools can be made to feel the importance of this new branch of education. we may expect rapid and permanent improvement in farming. It is in our common schools alone that a large portion of our farming population are educated, and for this reason it would seem very proper that considerable attention should be given to this branch of education in these schools. Let all who are entrusted with the supervision of schools

see that encouragement is given to this study.—*Albany Journal.*

LORD SPENCER'S RULES

FOR THE SELECTION OF MALE ANIMALS FOR BREEDING.

The first things to be considered in the selection of a male animal are the indications by which it may be possible to form a judgment as to his constitution. In all animals a wide chest indicates strength of constitution, and there can be no doubt that this is the point of shape to which it is most material for any breeder to look to in the selection either of a bull or a ram. In order to ascertain that the chest of these animals is wide, it is not sufficient to observe that they have wide bosoms; but the width which is perceived by looking at them in the front should be continued along the brisket, which ought to show great fulness in the part which is just under the elbows; it is also necessary that they shoud be what is called thick through the heart. Another indication of what a good constitution is, that a male animal should have a masculine appearance; with this view a certain degree of coarseness is by no means objectionable, but this coarseness should not be such as would be likely to show itself in a castrated animal, because it thus might happen that the oxen or wethers produced from such a sire would be coarse also, which in them would be a fault. Another point to be attended to, not merely as an indication of a good constitution, but as a merit in itself, is, that an animal in itself should exhibit great muscular power, or rather that his muscles should be large. This is an usual accompaniment of strength of constitution; but it also shows that there will be a good proportionate mixture of lean and fat in the meat produced from the animal, the muscles being that part which in meat is lean. A thick neck is, in both bulls and rams, a proof of the muscles being large, and there can hardly be a greater fault in the shape of a male animal of either sort, than his having a thin neck. I am inclined to say, that in the new Leicester breed of sheep, which is the breed to which I am accustomed, a ram's neck cannot be too thick. Other indications of muscle are more difficult to observe in sheep than in cattle. In a bull there ought to be a full muscle on each side of the back bone, just behind the top of the shoulder plades; he ought also to have the muscles on the outside of the thigh full, and extending down nearly to the hough. It will seldom happen that a bull having these indications will be found deficient in muscle. As I am writing for the use of farmers, it is quite unnecessary for me to attempt a description of what is considered a well shaped bull or ram; it is also obviously impossible to express in words what is meant by good handling. It is sufficient to say, therefore, that no small animal is fit to be used at all as a sire whose handling is not good, and that the more perfect his shape is the better.

☞ An agriculturist says:—"I wish to impress upon every one who keeps a flock, if not more than half a dozen, that Venetian red is the best thing that I ever saw used to paint mark sheep. It is, as most all know, a cheap red paint, only a few cents a pound, and one pound will mark a thousand. Take a pinch of dry powder, and draw the thumb and finger through the wool loosing the powder at the same time, and it will combine with the oil of the wool, and make a bright red mark that rains will never wash out, and does not injure the wool. It is readily cleansed out by the manufacturer."—*Granite Farmer.*

Mechanics' Department, Arts, &c.

TERRA COTTA FOR ORNAMENTAL ARCHITECTURE.

Who, in passing through the streets of our principal cities, has not been struck with the barrenness of the brick walls, and the want of something to break the monotony of their smooth fronts; and who has not stopped to gaze with wonder and delight when his eye rested upon some beautiful stone building, with its finely chiseled ornaments, and bold projections. This has been, not from a want of taste in our architects or builders, but from the want of some *material* for ornamental work, that would harmonize with brick and stone, at a cost that would bring them within the reach of all. Even for buildings for ordinary purposes as well as for residences, very few in constructing a common building would think of going to the expense of ornaments of chiseled stone, and no architect of good judgment would trim a building of brick or stone (designed to last for ages) with wooden ornaments. This objection is now being entirely overcome by the introduction of ornaments of terra cotta.

Terra cotta has been manufactured in this county during the past two years, and is now getting into extensive use. "Corinthian Capital of almost any size, from 10 to 40 inches, are made in a style that cannot be approached in stone, for it is impossible to give that relief to stone that is done in these,—Ionic Capital—of various orders, as the Grecian and Roman—Garden Vases—Window Caps—and an infinite variety of Brackets, Modillions, Consoles and Ornamental China top." Some of this work has been in use through the present, and also through last winter, and is not affected in the least by frost or the weather. It is equally desirable to trim wooden, as brick buildings, and costs less than wood.—*Mass. Spy.*

GREAT EXHIBITION.

Ice Produced by Steam Power, and Steam Converted into Snow.—That ice can be produced by mechanical means many may have heard; but that steam may be used as an auxiliary for the purpose will seem hardly creditable to anybody; and that *steam* itself may be converted into *snow* by the aid of steam, is a phenemenon of which but very few have heard. Yet these are facts, and are now being daily demonstrated at the Great Exhibition, in the refreshment room adjoining the department of machinery in motion. Mr. Thomas Masters, of the Royal Polytechnic Institution, Regent Street, the inventer of various ingenious machines for freezing, has adapted one of them for being put in motion by steam-power, and which is now in operation daily in the western refreshment room. This apparatus is capable of freezing upwards of 100 quarts of dessert ices (six different sorts are produced in the one machine) every fifteen or sixteen minutes. An unlimited supply of dessert ices can thus be obtained, and of a perfectly smooth quality.

The economy of time, labor and expense thus insured must be immense. A more perfect and simple contrivance for producing a perennial supply of these delicacies, in a crowded place like the Exhibition, could not be conceived, and the invention is undoubtedly one of the most ingenious novelties in the section devoted to the machinery in motion, The machines, however, are not limited to making dessert ices; they are made to produce cylinders of *solid ice*, sufficiently large to hold decanters of water and many bottles of wine. These cylinders are made in the form of castellated towers, and have a very novel appearance. They not only cool the wine and water placed in the centre, but diffuse a most agreeable coolness through the atmosphere. The converting steam or vapor into snow is effected by forcing it through the machine, and in this way a whole room may be easily cooled down in the hottest weather. These are very singular effects. They are, however, easily to be understood by an examination of some of the patentee's smaller machines, of which there are several exhibited in class 22; and which are calculated for use in a small family or bachelor's chambers. The cost of turning pure water into ice for sherry cobler, cooling wine, and other purposes, is less than it can be purchased for at the ice stores. The machines are well worthy the attention of the curious and scientific. Mr. Masters, the patentee, is, we understand, the contractor for the supply of the confectionary and dessert ices to the eastern as well as the western refreshment rooms in the Exhibition, and visitors have thus every opportunity of informing themselves of the merits of these singular inventions.

STONE PUMPS.

While at Newton Falls, a few days since, we visited the Stone Pump Factory of Mr. J. G. Calender, formerly of Warren. His establishment is now in complete working order, with improved machinery, and turns out a large amount of pipe per day. These pumps will probably supersede all others in a few years. The material neither rusts nor corrodes, is proof against the strongest acids, and is almost as hard to break as iron. Mr. C. is likewise manufacturing conduit pipe of various sizes, for conducting springs, draining marshy lands, &c. His establishment is worthy of a visit from the curious in such matters.—*Ex.*

LOCKS IN THE GREAT EXHIBITION.—There has been some little excitement here by a feat performed by an American, who has a lock on exhibition from New York. The crack lock of England, called, I believe, *Chubb's lock*, which had, as I understand, received the endorsement of some Royal Scientific Society here, as *the lock of the world;* and as I understand, an essay delivered in honor of the inventor, was opened by the American lock-maker, on the FIRST trial, *in fourteen minutes*, and on the second, in from *five* to *seven minutes*.

This lock is the great safeguard which secures the Queen's valuable *Lahore Diamond*, called Koh-i-noor, and valued at £2,000,000 sterling, which is put out of sight each night, and exhibited under a strong iron cage during the day. It would prove but little security against the American lock-maker.—*B. P. Johnson.*

Ladies' Department.

HOME.

"Home, thy joys are passing lovely—
Joys no stranger heart can tell."

What a charm rests upon the endearing name —my home! consecrated by domestic love, that golden key of human happiness. Without this, home would be like a temple stripped of its garlands; there a father welcomes, with fond affection; a brother's kind sympathies comfort in the hour of distress, and assist in every trial; there a pious mother first taught the infant lips to lisp the name of Jesus; and there a loved sister dwells, the companion of early days.

Truly, if there is aught that is lovely here below, it is home—sweet home! It is like the oasis of the desert. The passing of our days may be painful; our path may be checkered by sorrow and care; unkindness and frowns may wither the joyousness of the heart, efface the happy smiles from the brow, and bedew life's way with tears, yet, when the memory hovers over the past, there is no place which it delights to linger, as the loved scene of childhood's home! It is the polar star of existence. What cheers the mariner, far away from his native land in a foreign port, or tossed upon the bounding billows, as he paces the deck at midnight alone—what thoughts fill his breast? He is thinking of the loved ones far away at his own happy cottage; in his mind's eye he sees the smiling group seated around the cheerful fireside. In imagination he hears them uniting their voices in singing the sweet songs which he loves. He is anticipating the hour when he shall return to his native land, to greet those absent ones so dear to his heart.

Why rests that deep shade of sadness upon the stranger's brow as he seats himself amid the family circle? He is surrounded by all the luxuries that wealth can afford; happy faces gather round him, and strive in vain to win a smile! Ah! he is thinking of his own sweet home; of the loved ones assembled within his own cheerful cot.

Why those tears which steal down the cheeks of that young and lovely girl, as she mingles in the social circle? Ah! she is an orphan; she, too, had a happy home; its loved ones are now sleeping in the cold and silent tomb. The gentle mother who watched over her infancy, and hushed her to sleep with a lullaby, which a mother only can sing, who in girlhood days taught her of the Saviour, and tuned her youthful voice to sing praises to his name, has gone to the mansions of joy above, and is mingling her songs, and tuning her golden harp, with bright angels in heaven. Poor one! She is now left to thread the golden path of life, a lonely, homeless wanderer.

Thus it is in this changing world. The objects most dear are snatched away. We are deprived of the friends whom we most love, and our cherished home is rendered desolate. "Passing away" is engraved on all things earthly. But there is a home that knows no change, where separation never takes place, where the sorrowing ones of this world may obtain relief for all their griefs, and where the sighs and tears of earth are exchanged for unending songs of joy. This home is found in heaven.

In the shadowy past, there is one sweet reminiscence which the storms of life can never wither;

it is the recollection of home. In the visioned future, there is one bright star whose lustre never fades; it is the hope of home—of a heavenly home. —*Musical Visiter.*

THE ENGLISH IDEA OF BUTTER.

Mr. Stephens, in his book of the Farm, thus dwells upon the philosophy and its application to butter and butter making:

Butter assumes a texture according as it has been treated. When burst in the churning it is not only soft but frothy, and on being cut with a knife, sticks to it, and seems as if it could be compressed into much smaller bulk. When churned too rapidly, particularly in warm weather, the butter may not be agitated to the state of bursting, but it will continue soft and never become firm, though worked up with ever so much care, and in the coolest manner,—and when a lump is drawn asunder in two pieces, they each present a jagged surface, and also sticks to the knife that cuts it. Butter in either of these states of softness will not keep long, whether salted or fresh. When overchurned—that is, when the churning has been continued after the butter has been formed, the butter becomes soft, not unlike the state when it is too rapidly churned. When properly churned, both in regard to time and temperature, butter becomes firm with very little working, and is tenacious,—but its most desirable state is that of wax, when it is easily moulded into any shape, and may be drawn out to a considerable length before breaking. It is only in this state that butter possesses that rich nutty flavor and smell which impart so high a degree of pleasure in eating it, and which enhance its value manifold. It is not necessary to taste butter on judging of it; the smooth unctious feel, on rubbing a little between the finger and thumb, expresses at once its richness of quality; the nutty smell indicates a similar taste; and the bright, glistening, cream-colored surface, shows its high state of cleanliness.

What I have stated in reference to the making of butter, applies particularly to that obtained from cream alone, and from cream in the usual state for butter, namely, after it has become sour by keeping; but butter can be obtained from sweet cream, though churning renders its butter-milk as sour as that from sour cream. To have butter in perfection from sweet cream it should be churned every day; as a daily supply of cream must be small, a small churn must be used, to have butter fresh made every day. The table churn becomes useful for this purpose. I see it alleged, in advertisements of table churns, that butter may be made in them from cream in ten or twelve minutes. I have made several experiments with such a table churn, in churning cream at different temperatures, and with different volocities, but never obtained good butter in less than thirty minutes, and when formed so quickly as in fifteen minutes the butter was soft and frothy. I have heard it alleged that butter of the finest quality cannot be obtained from sweet cream, but I know from experience that butter of the richest quality, flavor and appearance, can be made from sweet cream. Were not such butter super-excellent, would noblemen have it on their tables every morning? I consider butter out of the churn and before it is washed most delicious. It is true that sweet cream requires longer churning than sour, still butter is obtained from it in from thirty to forty minutes. For my own use, I would never desire better butter, the year round, than that churned every morning in a small churn from sweet cream. Such butter, on cool new baked oat-cake, overlaid with flower virgin honey, accompanied with a cup of hot strong coffee, mollified with crystalized sugar and cream, such as the butter has been made from, is a breakfast worth partaking of, but seldom to be obtained.

VEGETABLE POISONS.—Mr. E. S. Fox, of Athens, N. York, publishes the following: "Almost every farmer is more or less troubled with poison ivy, sumach, parsnip, and the like, from which I have suffered very much myself, and after trying a great variety of remedies, have found out that a poultice made of buckwheat flour and buttermilk, with a piece of blue vitrol the size of a pea, pulverized and dissolved, added to the mixture, has had the happy effect of removing the trouble, and effecting a cure in a short time."

HOW TO MAKE A GOOD CUP OF TEA.—M. Soyer recommends that, before pouring in any water, the teapot, with the tea in it, shall be placed in the oven till hot, or heated by means of a spirit lamp, or in front of the fire (not too close, of course,) and the pot then filled with boiling water. The result, he says, will be, in about a minute, a most delicious cup of tea, much superior to that drawn in the ordinary way.

☞ Men of genius are often dull and inert in society; as the blazing meteor, when it descends to the earth, is only a stone.

☞ The silent eye is often a more powerful conqueror than the noisy tongue.

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